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A report on the milk supply of the Oranges

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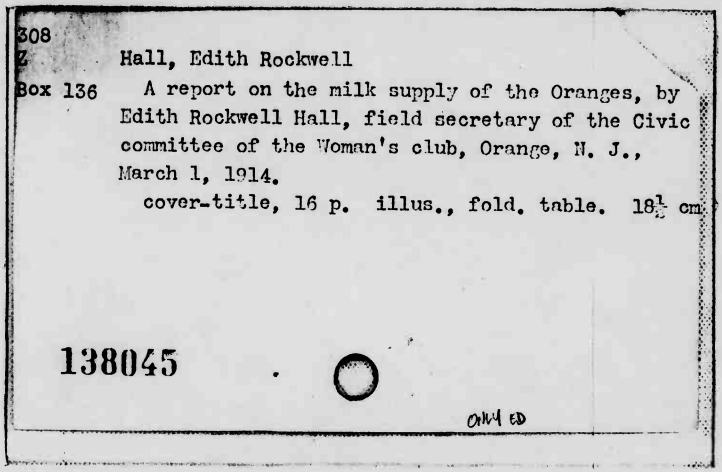
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A REPORT

on the

MILK SUPPLY OF THE ORANGES

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By

EDITH ROCKWELL HALL

Field Secretary of the

CIVIC COMMITTEE OF THE WOMAN'S CLUB

ORANGE, N. J.

March 1, 1914

TABLE I

55 retail dealers supplying the four Oranges, with some 395 dairies from which they draw their supply*

O—delivers in Orange; E—delivers in E. Orange; S—delivers in S. Orange; W—delivers in W. Orange

DEALER	Deliveries in	DAIRIES CONTRIBUTING TO SUPPLY
Alderney Dairy Co.	O. E. W.	Great Bend, Pa., 63 Cassville, N. Y., 36 N. Winfield, N. Y., 37 Marshall, N. J., 41 Lafayette, N. J., 30
Atkinson, C. L.	E.	Own, Hilton, N. J., 1 G. Hastings, Hilton, N. J., 1
Baker, C. D.	O. E. W.	Own, Livingston, N. J., 1 W. R. Force, Livingston, N. J., 1
Baker, W. J.	S.	Own, Hilton, N. J., 1
Becker, H.	O.E.S.W.	Own, Roseland, N. J., 1 Others, Livingston, N. J., 9; Hanover Neck, N. J., 6; Whippany, N. J., 9; West Caldwell, N. J., 4
Blackman, A. L.	O. E. W.	P. W. Metz, Succasunna, N. J., 1 M. Day, Succasunna, N. J., 1
Bonnell, Mrs. N. W.	O. S.	Own, Springfield, N. J., 1
Borden Cond. Milk Co.	O.E.S.W.	Creamery, Brisben, N. Y., 57
" (pasteurized)	E.	Creamery, Oxford, N. Y.. 43
Botkins & Durling	E.	Creamery, Whitehouse, N. J., 13
Branch Brook Dairy Co.	E.	J. J. Hummer, Landsdown, N. J., 1
Crane, I. S.	O. E.	Own, Livingston, N. J., 1 Other, Livingston, N. J., 3
Crump, J. M.	O. E.	G. Hastings, Hilton, N. J., 1
Cutler, C. W.	E.	Fulboam Dairy Co., Andover, N. J., 32
Dato, F.	O.	W. R. Calvin, Newton, N. J., 1 Fulboam Dairy Co., Andover, N. J., 32
Dolan, P.	O. E. S.	Own, S. Orange, N. J., 1
Dorer, G.	E.	Own, E. Orange, N. J., 1
Edwards, W. L.	S.	J. Morrison, Springfield, N. J., 1
Fairfield Dairy Co.	O.E.S.W.	Own, Caldwell, N. J., 1 Cromborn Dairy, Pompton, N. J., 1 H. C. Baldwin, Waverly, N. Y., 1 B. L. Winter, Smithboro, N. Y.. 1 H. C. Crofoot, Homer, N. Y., 1
" (certified)	O.E.S.W.	Own, Caldwell, N. J., 1 B. L. Winters, Smithboro, N. Y., 1
Gmeiner, J. P.	O. W.	Bevans Bros., Bevans, N. J., 1 (through Seiler Bros.)
Grossman, G.	O. W.	A. Grossman, Northfield, N. J., 1
Guadagno, M.	O. E. W.	Fulboam Dairy, Andover, N. J., 32 Burnett Bros., Livingston, N. J., 1
Hatch, E. W.	O. E. S.	Own, Maplewood, N. J., 1
Hedley, A. B.	E.	Own, Union, N. J., 1
Heintz, L. P.	O. E. W.	C. D. Harrison, Roseland, N. J., 1
Hoch, J. W.	O. E. W.	Fulboam Dairy, Andover, N. J., 32
Hyer, J.	E.	Own, Roseland, N. J., 1 E. Haversang, Roseland, N. J., 1 J. Klem, Roseland, N. J., 1
Jagger, E.	O. E. W.	Fulboam Dairy, Andover, N. J., 32
Kent, H. L.	O. E. W.	Joseph Rush, Broadway, N. J., 1 Frank Rush, Broadway, N. J., 1 Edison, No. 1, Broadway, N. J., 1 Edison, No. 2. Broadway, N. J., 1
Laracy Bros.	O. W.	Own, W. Orange, N. J., 1
Lyons, J. J.	O. S.	Own, Maplewood, N. J , 1
Malwitz Bros.	S.	E. Burnett, Vauxhall, N. J., 1 J. Morrison, Springfield, N. J., 1
Martin, Mrs. H.	E.	Creamery, Columbia, N. Y., 16 (through H. F. Backus, Newark)
Meeker, F. H.	O. S. W.	J. P. Day, Livingston, N. J., 1
Merdinger, C. W.	O. W.	Fulboam Dairy, Andover, N. J., 32
Mitschele, L., Jr.	O. W.	L. Mitschele, Northfield, N. J., 1 G. Ochs, Jr., Northfield. N. J., 1
Mulford, M. H.	E.	B. H. Kays, Milansville, N. J., 1 (through Fulboam Dairy)
McCreery, W. H.	O. E. W.	Fulboam Dairy, Andover, N. J., 32 Burnett Bros., Livingston, N. J., 1
Noll, J. A.	E.	Own, Bloomfield, N. J., 1
Oelling, S.	E.	Own, E. Orange, N. J., 1
Pierson, W. B.	O. E. W.	Own, W. Orange, N. J., 1
Prevost, W.	E.	Creameries, Newton, N. J., 12; Monroe. N. Y., 13
Rimback, C.	O. W.	K. MacQuide, G. Littell, Burnett Bros., Livingston, N. J. G. Miller, Northfield, N. J.
Rose, A. D.	E.	Creamery, Columbia, N. Y., 16 (through H. F. Backus, Newark)
Rowe, G.	E.	Own, Brookdale, N. J., 1
Schwer, C.	E.	C. G. Stretch, Killawog, N. Y., 1
Seiler Bros.	O. E.	Creameries, Baldwinsville, N. Y.; Bevans, N. J.; Lafayette, N. J.; Onativia, N. Y., 48
Smith, W. H.	O. W.	F. Decker, Livingston, N. J., 1
Smith, W. L.	O. E. W.	Own, Livingston, N. J., 1 Other, Livingston, N. J., 6; Hanover, N. J., 5
Smith & Sloan	O. E.	W. R. Calvin, Newton, N. J., 1 J. Baughart, Broadway, N. J., 1
Todd, J. H.	O. W.	Own, W. Orange, N. J., 1 R. B. Todd, W. Orange, N. J., 1
Vail, E. M.	O. S.	Own, Vailsburg, 1
Varndell, R. H.	O. E. W.	Max Nolze, Livingston, N. J., 1
Vincent, J.	O. W.	Own, W. Orange, N. J., 1
Voorhees, P.	O. E. W.	W. Baylor, C. Fritz, S. Baker, Shields & Myers, F. Thomas, Port Murray, N. J., 5 G. Hastings, Hilton, N. J., 1 A. Fleming, Washington, N. J., 1
Ward, J.	O. E.	Fulboam, Andover, N. J., 32

*Some difficulty has been experienced in verifying the number and location of certain dairies contributing to the supply. The Committee will welcome corrections and more exact information.

Oct. 18, 1923 AET

A REPORT ON THE MILK SUPPLY OF THE ORANGES

The accompanying report of milk conditions in the Oranges is made to the Civic Committee of the Woman's Club by its secretary, Miss Edith Rockwell Hall. It is published by the Committee for the purpose of giving to the consumer a wider knowledge than now exists of conditions of production and supply, and in the hope of arousing citizen interest in a union of effort among the four municipalities toward a more efficient control.

Last spring the Committee offered the services of its secretary during the summer to the Orange Board of Health, in order that a more thorough study of the milk supply might be carried on than was possible with the limited official inspecting staff alone. Through the courtesy of the Board Miss Hall was made a temporary special milk inspector in June, 1913, and has enjoyed the use of the department's laboratory in assisting in the test of over 600 samples on which these conclusions are based as to the quality of the milk furnished in the Oranges.

Acknowledgment is also made of the courtesy of the Health officials of E. Orange, S. Orange, and W. Orange, in furnishing data contained in the report.

Retail Dealers and Supply The four Oranges are supplied by 55 retail dealers (see Table I) whose milk is drawn from some 395 dairies in N.J., N.Y., and Pa. Of these 55 dealers only 14 produce and bottle their own milk exclusively. The remainder receive in bulk from individual dairymen or from creameries, and merely bottle and sell milk over the production of which they have had no control.

Dairies will be inspected and scored by the State Board of Health upon request from a local board, and reports are forwarded from Trenton. But the State service in its present organization is not able to make sufficiently frequent inspections to insure a reliable control, and it is necessary to

supplement the State oversight by inspections from the local Health Departments. These again, for lack of adequate inspecting force, are at present spasmodic and insufficient to secure an up-to-date knowledge of conditions at the source of supply.

Moreover, the lack of cooperation among the four municipalities in failing to organize and carry on a united dairy inspection results in a waste of effort and of opportunity to serve the public interest that should be a matter of citizen protest. The accompanying charts (Table V, pages 11 and 12) show the needless duplication of time and effort in the present plan of inspection. (See recommendations of the Committee at the end of the report.)

It will be noticed that of the 55 dealers supplying the community, only 3 deliver milk in all four Oranges. Fifteen deliver in E. Orange alone; 3 in S. Orange alone; 1 in Orange alone; and none in W. Orange alone. But of the 37 dealers furnishing the Orange supply and tested in the Orange laboratory, 23 serve milk in E. Orange also; 26 in W. Orange also; 9 in S. Orange also. So that the tests made officially for Orange, serve as a partial study of the supply of the other Oranges as well.

Milk Ordinances The ordinances regulating the sale of milk in Orange and E. Orange are practically the same. They provide for licensing the retail dealers, for inspecting and scoring dairies and bottling plants, and fix the maximum bacterial count allowed per c.c. at 100,000.

There is no ordinance in S. Orange definitely regulating milk conditions, but large powers of discretion are given to the Health Officer in granting and revoking licenses, and under the present efficient officer, a diligent oversight is kept and a high standard fixed. The supply of S. Orange is mainly local and the problem of inspection relatively simple. But, even so, the work of maintaining a really satisfactory control is rendered difficult here as in the other Oranges, through lack of adequate inspecting force.

The milk ordinance of W. Orange deals chiefly with conditions of production and handling and provides for the

licensing of retail dealers. No bacterial limit is fixed and no provision made for dairy inspecting and scoring, nor for testing the supply, and no controlling power is vested in the Health Officer, as in S. Orange. Some informal inspection of dairies and bottling plants has been done on the initiative of the present Health Officer.

The sale of "loose" or "dipped" milk is prohibited in E. Orange and S. Orange. It is at present permitted in Orange, and the high grade of some of that supplied makes an argument for the reasonableness of furnishing a cheaper milk to the large numbers who can ill afford to pay the higher price of bottled milk. But the possibilities of contamination and the difficulties of maintaining a reliable control in the case of loose milk are so great that it is probable that it will soon be thought advisable to forbid the sale of it in Orange also.

In dairy scoring the State score card, with a minimum passing average of 60%, is used in E. Orange. Since the appointment of the present Health Officer, Orange has used the Federal score card. This is undoubtedly a better card than the one issued by the State, and should ultimately be adopted throughout the country as the uniform standard of rating. Its adoption in Orange at the present moment, however, seems ill advised as it is a step toward greater diversity of method when the need is so great for closer cooperation in a common uniform system of supervision for the four municipalities. The present passing mark of 60% on the State card is too low to insure satisfactory conditions in the dairies. Conditions suitable for the production of clean, reliable milk, make possible a score of 80%, and this standard should be demanded.

Official Tests, Orange A comparison of the averages of bacterial counts tested from the Orange supply (Table II) shows that, while only 16⅔% of samples for June, July, and August came within the limit of 100,000 prescribed by ordinance, 68% reached the requirement in the average for December. This is doubtless partly due to the difficulty of proper icing in hot weather, but it is also true that a noticeable improvement in the

samples from certain dealers has followed the delayed enforcement by the Board of Health of the ordinance passed last spring requiring sterilizers in all bottling plants. Improvement has also been made in the quality of several supplies by a careful inspection of dairies supplying the creameries and retail dealers, and the cutting out of a number of dairies found to be furnishing an unsatisfactory product.

But, while showing a marked improvement in the standing of many dealers and in the percentage of dealers who record a bacterial count within the prescribed limit, the table also shows that considerable percentage of dealers delivering in Orange do not at present, and have not during the past seven months, met the conditions required by ordinance. It is a fact admitted by the Orange officials that the city has not yet succeeded in fully enforcing the provisions of its milk ordinance. Much has been accomplished during the past few months in securing exact knowledge of conditions, and in lessening the number of dealers who are deficient in the quality of their supply. The time should be short until the standard is met by every dealer allowed to retain his license. This enforcement of the ordinance is due not only to the consumer, who must rely on the Health department to insure the purity of the milk he buys, but to those dealers that steadily maintain a high standard in their product. Attention is called to the number who show continuous low bacterial counts.

In these tests as well as those taken in the other Oranges, it is gratifying to notice the high standard maintained for butter fats and solids. The legal standard fixed by State law are 3% and 11.5% respectively.

TABLE II

Average of butter fats, solids and bacteria per c. c. in the milk supply of Orange, based on the official record of 628 samples from 37 dealers tested in the laboratory of the Health department June 1—Jan. 1. (Average 16 samples per dealer)

DEALER	Butter fats	Solids	BACTERIA PER C. C.			
	Average June 1—Jan. 1	Average June 1—Jan. 1	Average June 1—Jan. 1	Average June, July, August	Average Sept., Oct., Nov.	Average Dec.
Alderney Dairy Co.	3.38	11.99	123,800	187,100	55,800	8,600
" Spec. pasteurized	3.59	12.27	72,000	138,400	15,800	13,700
C. D. Baker	3.49	11.62	202,800	128,000	385,000	175,000
H. Becker	3.70	12.57	30,200	39,600	22,500	6,450
A. L. Blackman	3.47	11.85	316,000	380,000	78,400	653,000
Mrs. N. W. Bonnell	4.11	13.01	21,700	18,500	37,000	3,950
Borden Cond. Milk Co.	3.44	12.02	149,900	180,000	130,000	49,000
I. S. Crane	3.41	12.11	44,100	111,300	14,200	11,000
J. M. Crump	3.31	11.64	1,045,600	1,539,700	370,400	757,000
" (dipped)	3.10	11.11	2,096,600	3,105,500	1,150,000	552,000
F. Dato	3.43	12.05	93,400	32,900	210,600	43,500
P. Dolan	3.63	12.73	117,800	168,200	66,400	19,000
Fairfield Dairy Co.	3.28	12.02	19,900	25,900	16,200	2,400
" (certified)	3.49	12.24	22,500	12,100	32,200	39,500
J. P. Gmeiner	3.56	12.20	711,800	799,500	753,000	214,000
Geo. Grossman	3.48	12.16	716,700	488,900	1,392,200	53,500
M. Guadagno	3.43	12.01	1,675,000	2,080,900	1,177,600	1,092,500
E. H. Hatch	3.83	12.84	71,200	76,400	94,500	87,500
L. P. Heintz	3.94	12.69	281,000	445,200	35,200	57,000
" (dipped)	3.34	12.24	135,800	185,800	127,300	48,500
J. W. Hoch	3.43	12.25	430,100	498,300	499,600	17,500
" (dipped)	3.46	12.12	1,438,800	3,249,000	704,300	22,000
E. Jagger	3.44	12.05	1,314,600	2,367,100	55,700	25,500
H. L. Kent	3.69	12.55	244,200	388,600	111,200	66,000
Laracy Bros.	3.66	12.51	196,000	355,700	11,100	6,850
" (dipped)	3.76	12.57	32,100	50,600	7,400	7,600
J. J. Lyons	3.62	12.42	573,500	939,200	122,500	56,000
" (dipped)	3.71	12.66	200,500	251,600	149,300	——
F. H. Meeker	3.53	12.22	287,100	285,900	356,500	153,500
C. W. Merdinger	3.39	12.02	835,400	1,515,700	192,000	62,500
L. F. J. Mitschele	3.54	12.14	210,100	158,100	342,400	113,000
W. H. McCreery	3.79	12.53	1,338,000	1,511,200	1,240,000	890,000
" (dipped)	3.48	11.26	769,200	1,200,000	625,700	——
W. B. Pierson	3.76	12.65	167,300	144,300	242,400	60,500
C. Rimback	3.49	11.64	154,200	220,000	119,800	5,000
" (dipped)	3.48	12.03	220,500	134,400	193,400	11,000
Seiler Bros.	3.85	12.14	1,070,000	1,070,000	——	——
W. H. Smith	3.70	12.73	282,000	413,100	138,400	118,000
" (dipped)	2.90	11.36	565,600	565,600	not	selling
W. L. Smith	3.92	12 91	151,100	168,800	150,400	91,000
Smith & Sloan	3.46	12.18	54,300	33,700	86,300	56,400
Jas. H. Todd	3 93	12.76	253,000	352,100	76,800	170,500
E. M. Vail	3.33	11.98	92,700	109,900	85,400	33,500
" (dipped)	3.30	11.96	352,200	527,700	348,000	99,500
R. H. Varndell	3.66	12.31	358,900	536,900	91,000	49,000
J. Vincent	3.45	11.76	450,000	575,700	141,600	120,000
P. Voorhees	3.53	12.43	517,100	729,100	317,000	169,500
J. Ward	3.27	12.05	1,128,600	483,300	1,603,200	910,000

Official Score, East Orange

It has been repeatedly claimed by the authorities of E. Orange that the standard required in that community is adequately enforced. Investigation forces the conclusion that no sufficient data exist on which to base such a claim, and that the control established there so far should not be satisfactory either to the Board of Health or to the people. Table III shows the official tests covering the period from June 1st to January 1st.

TABLE III

Butter fats, solids and bacteria per c. c. in milk supply of East Orange, based on the official record of 84 samples from 40 dealers tested June 1—Jan. 1* (Average 2.1 samples per dealer)

DEALER	Date	Bacteria per c. c.	Average June 1, 1913—Jan. 1, 1914		
			Bacteria per c. c.	Butter fats	Solids
Alderney Dairy Co.	July 1	2,500,000	909,300	3.80	12.81
	July 29	78,000			
	Oct. 23	150,000			
C. L. Atkinson	Sept. 9	50,000	175,000	4.00	12.99
	Nov. 10	300,000			
C. D. Baker	July 9	100,000	117.500	3.80	12.73
	Oct. 13	135,000			
H. Becker	Sept. 3	75,000	82,500	3.80	12.52
	Oct. 31	90,000			
A. L. Blackman	July 21	100,000	107,500	3.90	12.86
	Oct. 14	115,000			
Borden Cond. Milk Co.	July 10	125,000	187,500	3.40	11.96
	Oct. 10	250,000			
Botkins & Durling	July 25	2,500,000	2,500,000	1.80	10.61
Branch Brook Dairy Co.	June 16	30,000	48,500	2.80	11.81
	Sept. 17	67,000			
I. S. Crane	—	—	—	—	—
J. M. Crump	June 27	300,000	200,000	3.80	12.04
	Sept. 29	100,000			
S. S. Cutler	June 11	125,000	77,500	3.80	12.54
	Sept. 11	30,000			
P. Dolan	Aug. 2	65,000	72,500	3.80	12.84
	Nov. 11	80,000			
Geo. Dorer	June 25	80,000	72,200	4.20	12.62
	Sept. 17	90,000			
	Dec. 3	56,000			
Fairfield Dairy Co.	June 6	168,000	96,500	3.13	11.32
	Sept. 16	(Sterile)			
	Dec. 9	25,000			
M. Guadagno	June 26	98,000	74,000	4.00	12.75
	Sept. 30	50,000			

TABLE III (*Continued*)

DEALER	Date	Bacteria per c. c.	Average June 1, 1913—Jan. 1, 1914		
			Bacteria per c. c.	Butter fats	Solids
E. Hatch	Sept. 3	500,000	750,000	3.80	12.94
	Oct. 28	1,000,000			
A. B. Hedley	June 12	450,000	178,600	3.52	12.82
	Sept. 16	50,000			
	Dec. 9	36,000			
L. P. Heintz	June 17	2,000,000	1,053,500	4.00	12.78
	Sept. 23	107,000			
J. W. Hoch	July 14	78,000	164,000	3.75	12.50
	Oct. 13	250,000			
J. Hyer	July 25	50,000	1,025,000	4.40	13.60
	Oct. 27	2,000,000			
E. Jagger	June 17	300,000	152,300	3.73	12.30
	Sept. 11	127,000			
	Nov. 11	30,000			
H. L. Kent	June 2	150.000	125,300	3.93	12.92
	Sept. 4	89,000			
	Nov. 5	137,000			
Mrs. H. Martin	Oct. 8	29,000	29,000	3.40	12.33
M. H. Mulford	July 2	100,000	300,000	4.30	13.41
	Oct. 7	500,000			
W. H. McCreery	June 20	70,000	85,000	3.66	12.63
	Sept. 26	85,000			
	Dec. 11	100,000			
J. A. Noll	July 7	30,000	65,000	4.20	13 06
	Oct. 6	100,000			
S. Oelling	Nov. 3	150,000	150,000	4.00	13.10
W. B. Pierson	June 3	125,000	87,500	4.00	12.98
	Sept. 12	50,000			
Wm. Prevost	June 2	5,000,000	1,816.600	3.33	12.00
	Sept. 15	100,000			
	Dec. 3	350,000			
A. D. Rose	July 28	250,000	250,000	4.00	12.60
Geo. Rowe	June 12	26,000	46,300	4.00	13.10
	Sept. 16	63,000			
	Dec. 3	50,000			
Chas. Schwer	June 16	60,000	530,000	3.30	11.91
	Sept. 8	1,000,000			
Seiler Bros.	June 12	67,000	75,600	3.33	12.10
	July 23	100,000			
	Dec. 4	60,000			
W. L. Smith	Sept. 8	75,000	1,037,500	4.60	13.30
	Nov. 6	2,000,000			
Smith & Sloan	July 23	80,000	85,000	3.70	12.36
	Oct. 14	90,000			
R. H. Varndell	June 9	40,000	85,000	3.93	12.79
	Sept. 12	100,000			
	Dec. 2	30,000			
P. Voorhees	June 27	125,000	112,500	3.80	12.85
	Oct. 3	100,000			
J. Ward	Sept. 2	450,000	325,000	3.10	11.67
	Nov. 1	200,000			

* This table does not include 13 samples taken from stores.

From the above table three facts are noticeable. *First,* that in a large number of cases where the dealer supplies Orange and E. Orange the official ratings of the two Boards do not agree. *Second,* that the number of tests made in the period covered is insufficient to establish a knowledge of conditions on which the claim of a satisfactory standard could be fairly based. *Third,* that 36% of single tests and 59% of average ratings show counts beyond the standard of 100,000 permitted by ordinance.

The second and third facts can only be remedied by provision for more frequent tests and follow up instruction. The first fact should be the subject of a conference between the two Health Boards in an effort to discover the reason for such dissimilarity in rating, and if the difference lies in the method of testing samples to adjust their methods to a reliable uniformity. If the supply, purporting to be the same, is really of different quality in the two places, then that fact should also be shown.

The embarrassment of dissimilar ratings is shown by the following incident: During the summer the Infant Welfare nurse employed by the Orange Board of Health had occasion to investigate the feeding of several babies in her care. She found that they were all supplied by the same dealer, whose milk, by tests taken in the Orange laboratory, showed an average count of over a million bacteria. She advised the mothers to change their supply, which they did with benefit to the babies. Some time afterward dealer number one appealed to his former patrons and regained their trade by showing a letter from the E. Orange Health Officer congratulating him on the quality of his milk and reporting his recent count at a figure far below the limit permitted. The babies are at present using his milk, which still (January 1), by the official Orange tests, shows a count of upward of a million.

Official Tests, S. Orange The following records (Table IV) are supplied by the Board of Health of S. Orange. S. Orange has the distinction of being the only one of the municipalities as yet to publish its milk score.

TABLE IV

Butter fats, solids and bacteria per c. c. in milk supply of S. Orange, based on the official record of 52 samples from 13 dealers tested June 1, 1913—Jan. 1, 1914

(Average 4 samples per dealer)

Dealer	Bacteria Per C. C.					Butter fats	Solids
	July	August	October	December	Average June 1—Jan. 1	Average % Oct. and Dec.	
W. T. Baker	40,000	120,000	182,000	35,000	94,250	4.05	12.61
H. Becker	23,000	22,000	120,000	27,000	48,000	3.82	12.34
N. W. Bonnell	9,000	11,000	15,000	18,000	13,000	3.90	12.55
Borden Milk Co.	72,000	76,000	182,000	38,000	92,000	3.67	12.16
Colinwood Farm (E. W. Hatch)	28,000	90,000	132,000	5,000	63,750	4.12	13.07
P. Dolan	226,000	116,000	32,000	182,000	139,000	3.75	12.37
W. Edwards	29,000	7,000	57,000	11,000	26,000	3.75	12.25
Fairfield Dairy Co.	14,000	.....	6,000	122,000	47,300	3.75	12.50
" (certified)	8,000	.....	4,000	5,000	5,650	4.05	13.11
J. J. Lyons	168,000	72,000	381,000	72,000	173,250	3.60	12.48
F. H. Meeker	136,000	128,000	118,000	32,000	103,500	3.60	12.19
Malwitz Bros.	26,000	28,000	88,000	88,000	57,500	3.82	12.41
E. M. Vail	48,000	14,000	96,000	57,000	53,750	3.82	12.84

Lack of Official Tests in W. Orange

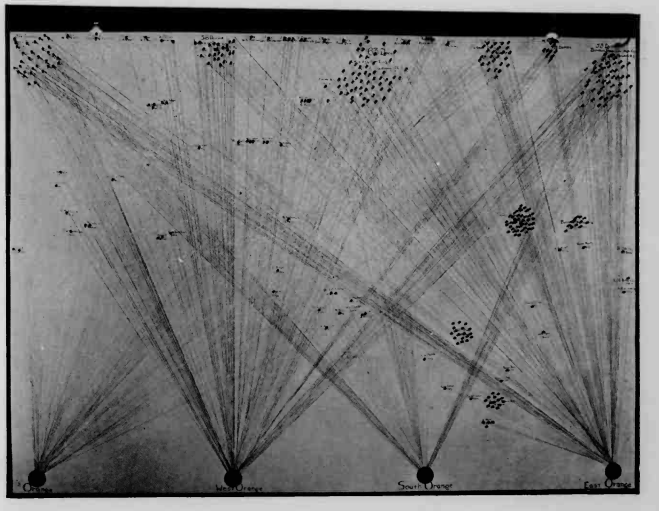
It has already been pointed out that, while practically no provision is made in W. Orange for supervision of the milk supply, there are no dealers who supply W. Orange alone. All of the W. Orange dealers hold licenses for Orange also; 16 deliver in E. Orange; and 4 in S. Orange. So the tests of the supply in these communities, and the dairy inspections made by them, serve in the nature of a control for W. Orange as well. W. Orange, however, should share in the demand for a closer supervision and more complete control for the whole community, and an adequate appropriation should be made by the town for this purpose.

Recommendations of the Committee

The Committee feels that conditions shown by the investigation are favorable to the development in the Oranges of a high grade and reliable milk supply. But that for the attainment and maintenance of satisfactory standards the four Health Boards should unite in a campaign of education, both of the milkmen themselves and of the public, as well as in a system of uniform and efficient inspection.

To secure such a system the Committee recommends the plan already brought forward two years ago by several of the Health Officers themselves, and discussed at joint meetings of the four Health Boards. The plan calls for a special milk inspector appointed by the four Health Boards jointly, and responsible to them for the oversight of milk conditions throughout the four municipalities. The placing of all inspecting in the hands of one expert inspector would obviate the duplication of visits and tests with the consequent waste of effort, and would make available for the community at large the information gained from close acquaintance with conditions at the source of supply. (See Table V.)

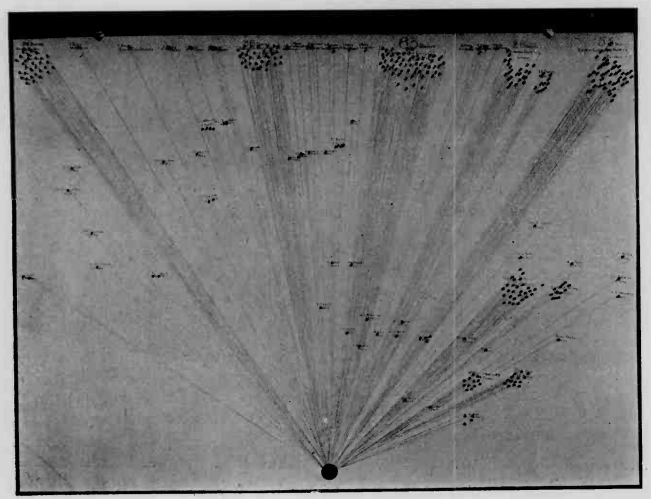
TABLE V—*A*



ORANGE W. ORANGE S. ORANGE E. ORANGE

A suggestion of the present method of the inspection of 395 dairies by the health department of the four Oranges acting independently. The duplication and waste of time, effort and money is apparent. A report to the citizens of each Orange of all the dairies contributing to their supply would involve 1143 visits.

TABLE V—*B*



A possible efficient system of dairy inspection by a representative of a joint milk committee of the four health departments. A report of all the dairies could be made to the citizens of all the Oranges by 395 visits instead of 1143.

Such a system should provide for frequent inspection and scoring of all dairies contributing to the supply, in order to keep a current knowledge of conditions in which the milk is produced; the sampling of milk in bulk shipped from these dairies to the community, as a further check on dairy conditions and as a detection of careless handling in transit; the inspection and scoring of all bottling plants; frequent bacteriological tests of milk ready for delivery by the retailers; and the keeping in a central place for ready reference records covering the supply of the whole community. There should be prompt follow up on unsatisfactory findings, and rigorous enforcement of the law, with revocation of license where a reasonable warning is not followed by prompt compliance with the required standards. *The score of every dealer delivering in the four Oranges should be published at least once a month.*

It is a pleasure to bear testimony to the general good spirit among the milk dealers in receiving suggestions, and endeavoring to reach and maintain the required standards. The Orange Health Officer reports that, following his inspections, several dairies, already maintaining conditions that give the required 60% score, have voluntarily adopted suggestions of improvements in equipment or method that have raised their score to 80% or more; and in several known cases noticeable immediate improvement in the bacterial tests has followed individual suggestions as to improved methods of bottling and handling. It is the belief of the Committee that *concerted action of the four Boards in a generous policy of oversight and instruction would prove to be one of the most effective means of securing generally improved conditions.*

A ready citizen support for this important branch of health work would also be facilitated by the education of the consuming public to a discriminating intelligence in regard to the milk supply. This could be effected by a policy of publicity of facts regarding the essentials of clean milk, as well as the publishing of the scores of local dealers. An excellent milk bulletin is now published quarterly in S. Orange.

While the Health Boards themselves may in some cases need to be urged to greater initiative in setting forth the need for an improved milk control, it should be remembered that the work can be widened only as increased funds are provided for it, and the demand should come from the taxpayers themselves. The amounts appropriated to the Health Departments at present are entirely inadequate to the work needing to be done, and praise should be given the officials for good work already accomplished rather than blame for inadequate results.

The amounts appropriated to the several Health Departments in the budgets of 1913 are as follows: In no case is any appropriation made specifically for milk oversight.

	Amount	Population
Orange	$7,430	32,000
E. Orange	6,822	40,000
S. Orange	3,200	7,000
W. Orange	1,800	13,000

Orange has, in addition to its Health Officer, a plumbing inspector and two general inspectors, a part of whose time is given to collecting milk samples and inspecting milk shops and bottling plants. Dairy inspection and milk testing is done by the Health Officer. It should be remembered that the additional amount of milk work done since June this year by the Orange Board has been possible through the full time service during three months, and part time during four months, of the Committee's secretary.

East Orange employs only one general inspector besides the Health Officer. He combines the collecting of milk samples with his other duties. Dairy inspecting is done largely by the State, or by the Health Officer and members of the Board. Milk tests are made by a physician holding a part time position as Bacteriologist to the Board.

In S. Orange all local milk inspection is done by the Health Officer. The State is called on to inspect distant dairies and the milk testing is done in the laboratory of one of the hospitals. There is no regular inspector. The collecting of milk samples and other such work is done as piece work by a man employed by the hour.

W. Orange employs no inspector other than the Health Officer, and no provision is made for milk inspection or testing.

The appointment of an expert milk inspector responsible to the four Oranges would not only make possible a systematic and more effective milk control, but it would free the Health Officers for more supervisory work and constructive planning.

The cost of such a joint milk inspection has been roughly estimated as follows:

Salary of inspector.....	$1,200
Cost of 5 rounds of inspection a year.	800
	$2,000

It is possible that a careful accounting would show that this amount is already largely covered by money spent in the present method. So far no attempt is made in the several municipalities to estimate the cost of milk work apart from other health expenditure. It is certain, however, that except in W. Orange, the cost is considerable.

It is not the purpose of the present report to suggest details of the plan for joint inspection work, or of the best method by which the just share of each municipality may be arrived at. Three methods have been discussed: *First,* that the share should be in proportion to the population to be served; *second,* in proportion to the ratables of each municipality; *third,* according to the cost of services actually rendered for each Board. That cooperation so urgently needed should be balked by inability to arrive at an arrangement satisfactory to all four Boards seems trivial, and is a matter in which the voice of the citizens themselves might well be heard.

Tuberculin Test and Pasteurization

There has purposely been no mention made in this report of the important questions of tuberculin test and pasteurization. There is at present no ordinance in any of the municipalities requiring either, and, as a matter of fact, only a small per cent. of the milk at present delivered is pasteurized or from tuberculin tested herds.

It is the opinion of the Committee that these questions, to be satisfactorily met, should be considered and dealt with for the community as a whole and that the all important step to be taken first in achieving our ideal for the Oranges of thoroughly safe, pure milk is to organize a system of management whereby we can know *for the whole community* where every quart is produced and that it is produced and handled under conditions likely to bring it to us clean and fresh. With a satisfactory control over these matters established, we shall be in an assured position to pass on to the consideration of further measures of safety.

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